WASHINGTON STATE DEPARTMENT OF ECOLOGY

Dangerous Waste Permit Application Part A Form

Date Received	Reviewed by::	Date:	0	9	2	9	2	0	0	8
Month Day Year	Approved by::	Date:	0	9	2	9	2	0	0	8
0 9 2 5 2 0 0 8										

I. This form is submitted to: (place an "X" in the appropriate box)

☒	**Request modification to a final status permit (commonly called a "Part B" permit)**
☐	**Request a change under interim status**
☐	**Apply for a final status permit. This includes the application for the initial final status permit for a site or for a permit renewal (i.e., a new permit to replace an expiring permit).**
☐	**Establish interim status because of the wastes newly regulated on:** (Date)
	List waste codes:

II. EPA/State ID Number

W	A	7	8	9	0	0	0	8	9	6	7

III. Name of Facility

US Department of Energy – Hanford Facility

IV. Facility Location (Physical address not P.O. Box or Route Number)

A. Street

825 Jadwin

City or Town	State	ZIP Code
Richland	WA	99352

County Code (if known)	County Name
005	Benton

B. Land Type	C. Geographic Location		D. Facility Existence Date
	Latitude (degrees, mins, secs)	Longitude (degrees, mins, secs)	Month Day Year
F	Refer to TOPO Map (Section XV.)		03 02 1943

V. Facility Mailing Address

Street or P.O. Box

P.O. Box 450

City or Town	State	ZIP Code
Richland	WA	99352

VI. Facility contact (Person to be contacted regarding waste activities at facility)		
Name (last)	**(first)**	
Olinger	Shirley	
Job Title	**Phone Number (area code and number)**	
Manager	(509) 372-3062	
Contact Address		
Street or P.O. Box		
P.O. Box 450		
City or Town	**State**	**ZIP Code**
Richland	WA	99352

VII. Facility Operator Information	
A. Name	**Phone Number**
Department of Energy Owner/Operator Washington River Protection Solutions, LLC Co-Operator for 242-A Evaporator*	(509) 372-3062 (509) 372-9138*
Street or P.O. Box	
P.O. Box 450 P.O. Box 850*	

City or Town	State	ZIP Code
Richland	WA	99352

B. Operator Type	F

C. Does the name in VII.A reflect a proposed change in operator?	☐ Yes ☒ No Co-Operator* change
If yes, provide the scheduled date for the change:	Month: 10 / Day: 01 / Year: 2008
D. Is the name listed in VII.A. also the owner? If yes, skip to Section VIII.C.	☐ Yes ☒ No

VIII. Facility Owner Information	
A. Name	**Phone Number (area code and number)**
Shirley J Olinger, Operator/Facility-Property Owner	(509) 372-3062
Street or P.O. Box	
P.O. Box 450	

City or Town	State	ZIP Code
Richland	WA	99352

B. Owner Type	F

C. Does the name in VIII.A reflect a proposed change in owner?	☐ Yes ☒ No
If yes, provide the scheduled date for the change:	Month / Day / Year

IX. NAICS Codes (5/6 digit codes)													
A. First							**B. Second**						
5	6	2	2	1		Waste Treatment & Disposal	9	2	4	1	1	0	Administration of Air & Water Resource & Solid Waste Management Programs
C. Third							**D. Fourth**						
5	4	1	7	1		Research & Development in the Physical, Engineering, & Life Sciences							

X. Other Environmental Permits (see instructions)

A. Permit Type	B. Permit Number	C. Description
E	AIR 04-8120	WAC 246-247, NOC Rad Air
E	TSCA 06-0804	40 CFR 761, TSCA RBDA Approval letter from L. J. Iani (EPA Region 10 Adminstator) to J. B. Hebdon and J. E. Rasmussen (DOE) dated 6/8/04
E	A 4041	Petroleum Underground Storage Tank License

XI. Nature of Business (provide a brief description that includes both dangerous waste and non-dangerous waste areas and activities)

The 242-A Evaporator is used to treat and store mixed waste from the DST System. Two waste streams leave the 242-A Evaporator following the treatment process: a concentrated slurry waste stream that is routed to the DST System; and a process condensate waste stream that is routed to the Liquid Effluent Retention Facility.

The waste fed to the 242-A Evaporator is regulated as a mixed waste with the same waste constituents as the waste in the DST System. The concentrated slurry is a characteristic waste (D001, D002, and D003), toxic waste (D004 through D011, D018, D019, D022, D028 through D030, D033 through D036, D038 through D041, and D043), nonspecific source waste (F001 through F005 and F039), and state-only characteristic waste (WT01, WT02, WP01, WP02. Multi-source leachate (F039) is included as a waste derived from nonspecific source waste F001 through F005.

The process condensate is regulated as a mixed waste due to the toxicity of ammonia (WT02) and because it is derived from the waste with a nonspecific source wastes F001 through F005. Multi-source leachate (F039) is included as a waste derived from nonspecific source waste F001 through F005.

The list of dangerous waste constituents under Section XIV.A includes constituents that have not been detected in the waste; however, knowledge of the processes providing the waste to the 242-A Evaporator indicates the strong possibility that these constituents are present in the waste or there is a potential for treating these constituents in the future. The annual waste quantity listed under Section XIV.B was calculated using an operating schedule of 365 days per year, a maximum pumping rate of 655 liters/minute (173 gpm), and a specific gravity of 2.0 for the waste. This calculation was done to provide a maximum estimate of annual waste quantity.

T04

The 242-A Evaporator began waste management operations in March of 1977. The 242-A Evaporator is located in the 200 East Area and is used to treat mixed waste from the Double-Shell Tank (DST) System by removing water and most volatile organics. Two waste streams leave the 242-A Evaporator following the treatment process. The first stream, the concentrated slurry (approximately 40 to 60 percent of the water is removed during evaporation along with a portion of volatile organics), is pumped back into the DST System. The second waste stream, process condensate (containing a portion of the volatile organics removed from the mixed waste during the evaporation process), is routed through condensate filters before release to a retention basin (Liquid Effluent Retention Facility). Off gasses from the process are routed through a de-entrainment unit, a prefilter, and high-efficiency particulate air filters before being discharged to the environment. The 242-A Evaporator is used to treat up to 943,000 liters (~249,000 gallons) of mixed waste per day, based on the 655 liters/minute (173) gpm capacity of the spare feed pump for AW-102.

S02

Tank C-100, a 4.3-meter (14-foot) diameter by 5.9-meter (19-foot) high tank with a maximum design capacity of 67,380 liters (17,800 gallons) is located in the condensate room. Process condensate from the primary, inter-, and after-condensers drain by gravity to tank C -100, which is constructed of stainless steel. In addition, tank C-100 receives potentially contaminated drainage from the vessel vent system via a 102 -liter (27 gallon) seal pot.

Tank C-A-1 is located in the evaporator room and consists of two sections: the lower (liquid) section, a 4.3-meter (14-foot) diameter stainless steel shell, and an upper (vapor) section, a 3.5-meter (11.6-foot) diameter stainless steel shell, containing two wire-mesh de-entrainment pads for the removal of liquids and solids that could be carried into the vapor header. Process slurry from the reboiler discharges to the evaporator vessel (tank C-A-1). Concentrated process slurry exits the lower section of tank C-A-1 via the 28-inch recirculating line. Vapor flows out of tank C-A-1 through a 42-inch vapor line at the top. The maximum design capacity of tank C-A-1 is 103,217 liters (27,267 gallons).

EXAMPLE FOR COMPLETING ITEMS XII and XIII (shown in lines numbered X-1, X-2, and X-3 below): A facility has two storage tanks that hold 1200 gallons and 400 gallons respectively. There is also treatment in tanks at 20 gallons/hr. Finally, a one-quarter acre area that is two meters deep will undergo *in situ vitrification.*

Section XII. Process Codes and Design Capacities								Section XIII. Other Process Codes							
Line Number		A. Process Codes (enter code)			B. Process Design Capacity 1. Amount	B. Process Design Capacity 2. Unit of Measure (enter code)	C. Process Total Number of Units	Line Number		A. Process Codes (enter code)			B Process Design Capacity 1. Amount	B Process Design Capacity 2. Unit of Measure (enter code)	C. Process Total Number of Units	D. Process Description
X	1	S	0	2	1,600	G	002	X	1	T	0	4	700	C	001	In situ vitrification
X	2	T	0	3	20	E	001									
X	3	T	0	4	700	C	001									
	1	T	0	4	943,000	V	001		1							
	2	S	0	2	170,597	L	002		2							
	3								3							
	4								4							
	5								5							
	6								6							
	7								7							
	8								8							
	9								9							
1	0							1	0							
1	1							1	1							
1	2							1	2							
1	3							1	3							
1	4							1	4							
1	5							1	5							
1	6							1	6							
1	7							1	7							
1	8							1	8							
1	9							1	9							
2	0							2	0							
2	1							2	1							
2	2							2	2							
2	3							2	3							
2	4							2	4							
2	5							2	5							

XIV. Description of Dangerous Wastes

Example for completing this section: A facility will receive three non-listed wastes, then store and treat them on-site. Two wastes are corrosive only, with the facility receiving and storing the wastes in containers. There will be about 200 pounds per year of each of these two wastes, which will be neutralized in a tank. The other waste is corrosive and ignitable and will be neutralized then blended into hazardous waste fuel. There will be about 100 pounds per year of that waste, which will be received in bulk and put into tanks.

Line Number	A. Dangerous Waste No. (enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (enter code)	D. Processes									
							(1) Process Codes (enter)									(2) Process Description [If a code is not entered in D (1)]
X 1	**D**	**0**	**0**	**2**	**400**	**P**	**S**	**0**	**1**	**T**	**0**	**1**				
X 2	**D**	**0**	**0**	**1**	**100**	**P**	**S**	**0**	**2**	**T**	**0**	**1**				
X 3	**D**	**0**	**0**	**2**												**Included with above**
1	D	0	0	1	687,702,298	K	T	0	4							
2	D	0	0	2		K	T	0	4							
3	D	0	0	3		K	T	0	4							
4	D	0	0	4		K	T	0	4							
5	D	0	0	5		K	T	0	4							
6	D	0	0	6		K	T	0	4							
7	D	0	0	7		K	T	0	4							
8	D	0	0	8		K	T	0	4							
9	D	0	0	9		K	T	0	4							
10	D	0	1	0		K	T	0	4							
11	D	0	1	1		K	T	0	4							
12	D	0	1	8		K	T	0	4							
13	D	0	1	9		K	T	0	4							
14	D	0	2	2		K	T	0	4							
15	D	0	2	8		K	T	0	4							
16	D	0	2	9		K	T	0	4							
17	D	0	3	0		K	T	0	4							
18	D	0	3	3		K	T	0	4							
19	D	0	3	4		K	T	0	4							
20	D	0	3	5		K	T	0	4							
21	D	0	3	6		K	T	0	4							
22	D	0	3	8		K	T	0	4							
23	D	0	3	9		K	T	0	4							
24	D	0	4	0		K	T	0	4							
25	D	0	4	1		K	T	0	4							

EPA/State ID Number	W	A	7	8	9	0	0	0	8	9	6	7

Line Number	A. Dangerous Waste No. (enter code)	B. Estimated Annual Quantity of Waste	C. Unit of Measure (enter code)	D. Process	
				(1) Process Codes (enter)	(2) Process Description [If a code is not entered in D (1)]
26	D043		K	T04	
27	WT01		K	T04	
28	WT02		K	T04	
29	WP01		K	T04	
30	WP02		K	T04	
31	F001		K	T04	
32	F002		K	T04	
33	F003		K	T04	
34	F004		K	T04	
35	F005		K	T04	
36	F039		K	T04	
37	D001	348,241	K	S02	
38	D002		K	S02	
39	D003		K	S02	
40	D004		K	S02	
41	D005		K	S02	
42	D006		K	S02	
43	D007		K	S02	
44	D008		K	S02	
45	D009		K	S02	
46	D010		K	S02	
47	D011		K	S02	
48	D018		K	S02	
49	D019		K	S02	
50	D022		K	S02	
51	D028		K	S02	
52	D029		K	S02	
53	D030		K	S02	
54	D033		K	S02	
55	D034		K	S02	
56	D035		K	S02	
57	D036		K	S02	
58	D038		K	S02	
59	D039		K	S02	
60	D040		K	S02	
61	D041		K	S02	
62	D043		K	S02	
63	WT01		K	S02	
64	WT02		K	S02	
65	WP01		K	S02	

EPA/State ID Number	W	A	7	8	9	0	0	0	8	9	6	7

Line Number	A. Dangerous Waste No. (enter code)				B. Estimated Annual Quantity of Waste	C. Unit of Measure (enter code)	D. Process									
							(1) Process Codes (enter)									(2) Process Description [If a code is not entered in D (1)]
66	W	P	0	2		K	S	0	2							
67	F	0	0	1		K	S	0	2							
68	F	0	0	2		K	S	0	2							
69	F	0	0	3		K	S	0	2							
70	F	0	0	4		K	S	0	2							
71	F	0	0	5		K	S	0	2							
72	F	0	3	9		K	S	0	2							
73																
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100																

XV. Map

Attach to this application a topographic map of the area extending to at least one (1) mile beyond property boundaries. The map must show the outline of the facility; the location of each of its existing and proposed intake and discharge structures; each of its dangerous waste treatment, storage, recycling, or disposal units; and each well where fluids are injected underground. Include all springs, rivers, and other surface water bodies in this map area, plus drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary. The instructions provide additional information on meeting these requirements.

Topographic map is located in the Ecology Library

XVI. Facility Drawing

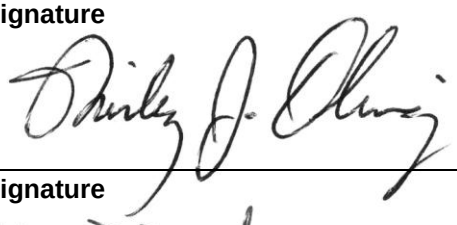
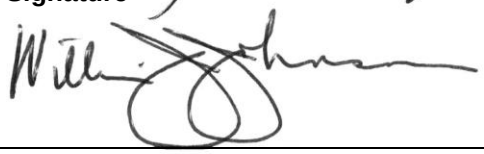
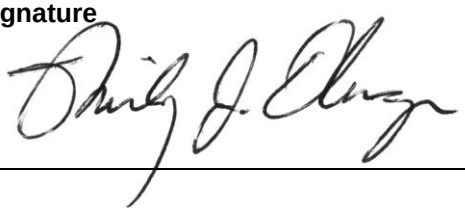
All existing facilities must include a scale drawing of the facility (refer to Instructions for more detail).

XVII. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, recycling, and disposal areas; and sites of future storage, treatment, recycling, or disposal areas (refer to Instructions for more detail).

XVIII. Certifications

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

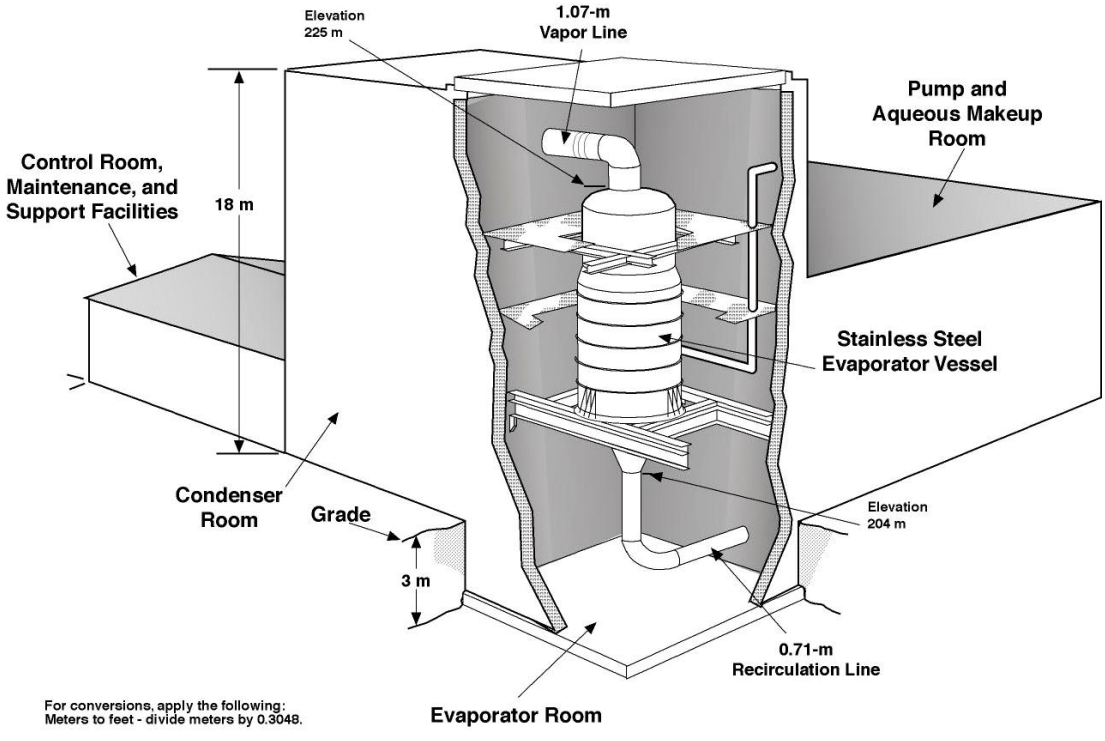
Operator Name and Official Title (type or print)	**Signature**	**Date Signed**
Shirley J. Olinger, Manager U.S. Department of Energy Office of River Protection		9/15/08
Co-Operator* Name and Official Title (type or print)	**Signature**	**Date Signed**
William J. Johnson President and Project Manager Washington River Protection Solutions, LLC		9/09/08
Co-Operator – Address and Telephone Number*		
P.O. Box 850 Richland, WA 99352 (509) 372-9138		
Facility-Property Owner Name and Official Title (type or print)	**Signature**	**Date Signed**
Shirley J. Olinger, Manager U.S. Department of Energy Office of River Protection		9/15/08

Comments

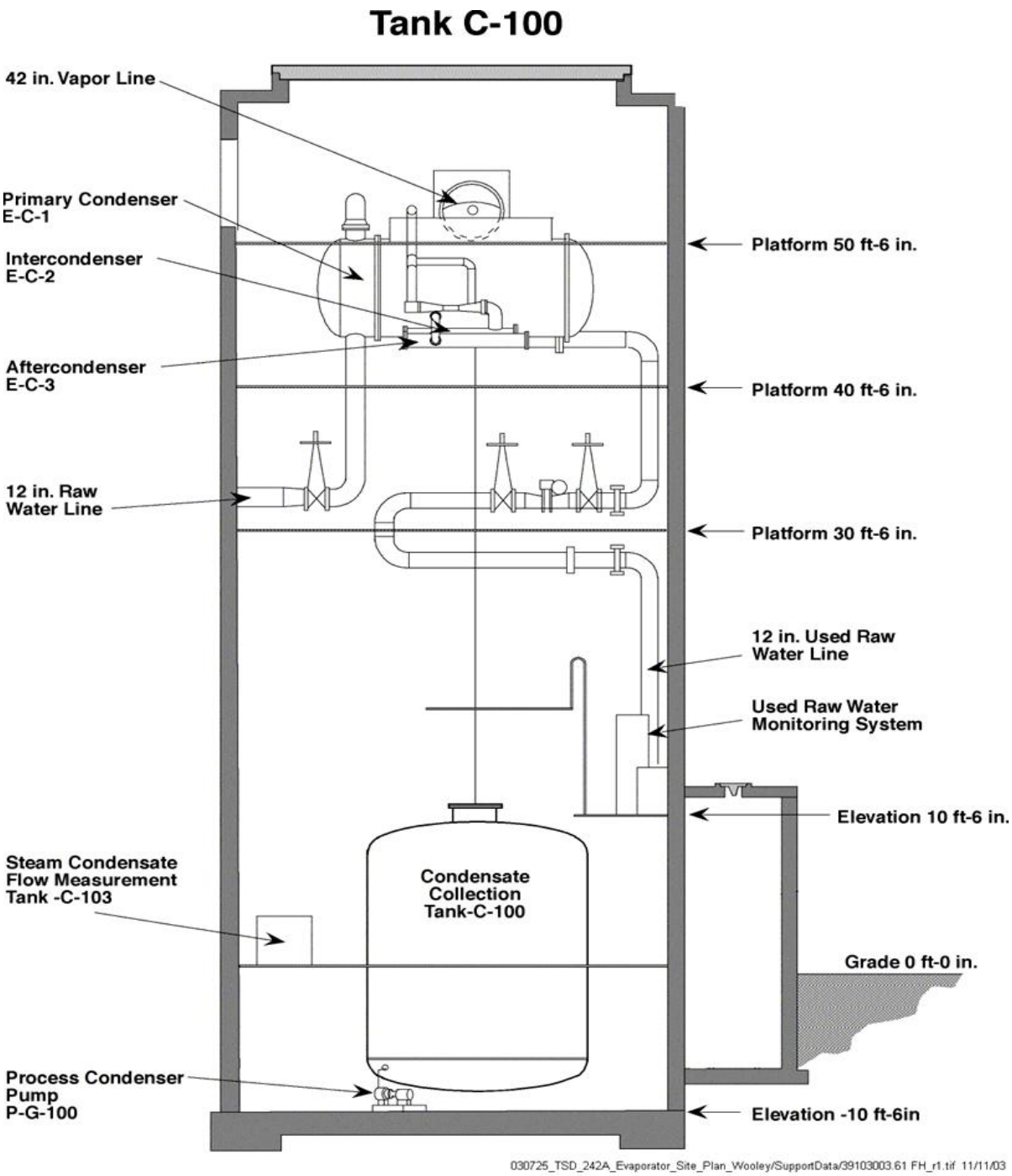
In Section VII, Facility Operator Information, there is no change to DOE as the Facility Owner/Operator; only a change in Co-Operator*. The change in Co-Operator* will be effective October 1, 2008.

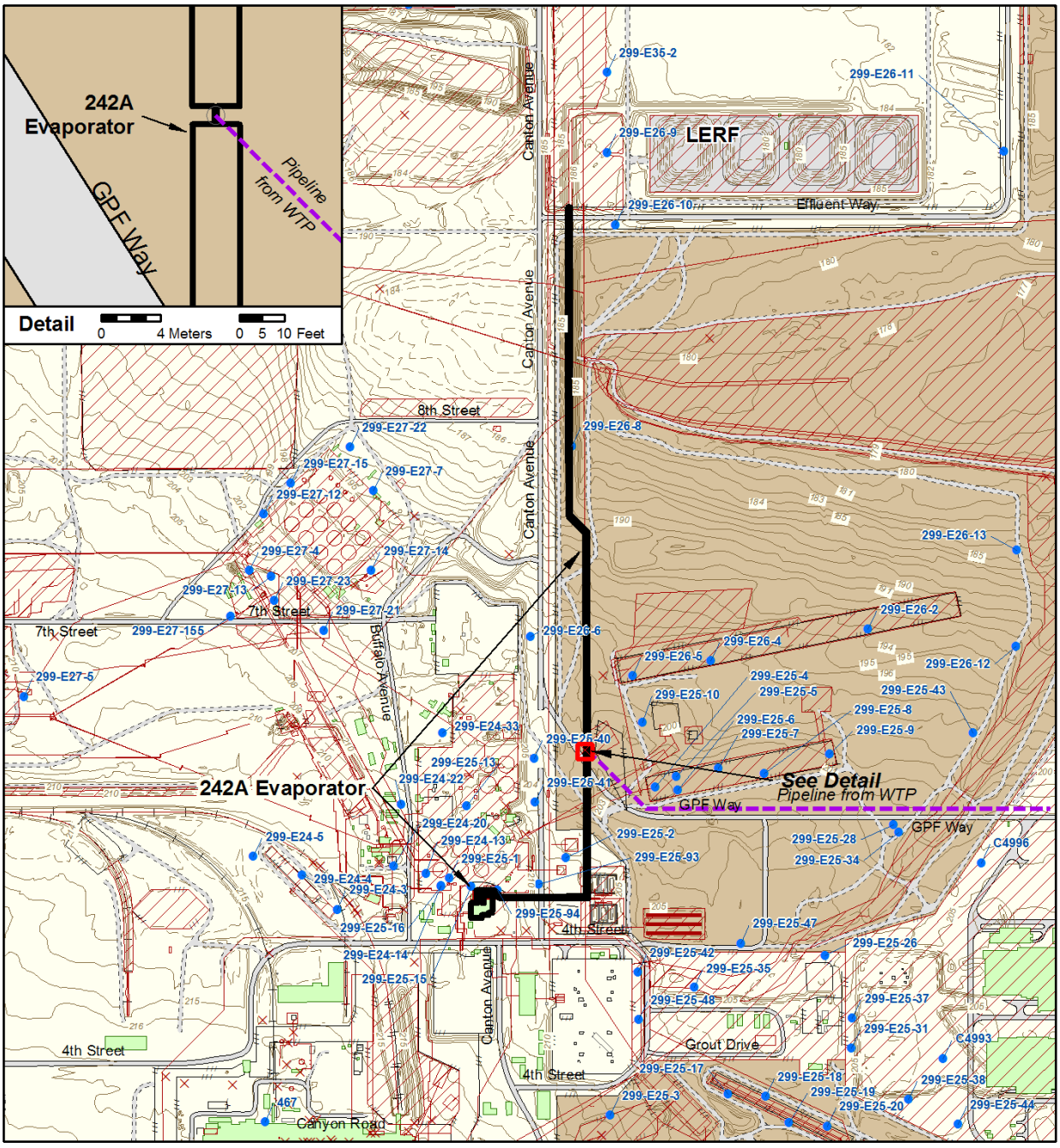
242-A Evaporator

96080579-19CN
Photo Taken 1996



242-A Evaporator





242A Evaporator

Hanford Site

Unit Location

Prepared for:
US DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
Created and Published by:
Central Mapping Services
Fluor Hanford, Richland, WA
(509) 373-9076
INTENDED USE: REFERENCE ONLY

- TSD Unit Boundary
- DOE Operating Areas
- Hanford Facility
- Injection and Withdrawal Wells
- Contours at 1 Meter Intervals
- Depression Contours
- SWMUs and Known Releases
- Linear SWMUs and Known Releases
- Spot SWMUs and Known Releases
- Buildings
- Structures
- Concrete
- Major Roads
- Service Roads
- Railroads
- Fences

Meters: 0 100 200 300

Feet: 0 200 400 600 800 1,000

CMS CENTRAL MAPPING SERVICES

O:\Projects\2004\RCRA_TSD\041102_Top10FacilityTopos2005_Bowman\Maps\050331_242AEvaporator_LineDwg_85x11_Rev2.mxd - 7/10/2008 @ 1:38:39 PM